The Lottery Paradox as a *pseudoproblem* potentially explained on psycho-linguistic grounds

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Abstract

I have attempted to develop a line of reasoning, grounded primarily around a psychological perspective introduced by J. Nagel as a tentative solution to the Lottery Paradox. Giving credit to the sound possibility of the problem to be caused by its shrewd structure, whence our intuitive knowledge it is questioned by explicitly detailed quantitative data, leading logically to a contradictory conclusion. Thus, accordingly we may interpret the Lottery Paradox to be an instance of a *pseudoproblem* – whose attempted resolution led to the formulation of *ad hoc* theories – for in order to escape skepticism, had to deny sufficient reason, only for a (arguably arbitrary) limited class of propositions.

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1. Introduction

The Lottery Paradox is one of the most notorious paradoxes in contemporary analytic epistemology. It was first introduced by Kyburg (1961) and has since generated numerous and varied responses and attempts at an ultimate solution. The paradox can be looked at by multiple perspectives and indeed not all proposed solutions evaluate the problem on each of its implications, or even base their research on the same version, hence adding complexity to the issue. The problem was originally expressed thusly:

> We could introduce a special convention to the effect that if A and B are ingredients of a rational corpus, then the conjunction of A and B is to be an ingredient of a rational corpus of this same level and basis. This has the effect of reinstituting the conventional logical rules concerning derivation from premises within the rational corpus of a given level. On the other hand, it would have seriously counter intuitive consequences. **Consider, for example, a lottery of a million tickets, of which one will be the winner. In advance of a fair drawing, the chances are a million to one against a given ticket being the winner. It seems reasonable then to include the statement, "ticket number j (for every j from 1 to 1,000,000) will not win the lottery," in a rational corpus of level r j.** If it is objected that this is not reasonable, on the grounds that there is a finite probability that ticket j will, after all, win the lottery, we can answer by pointing out that according to the same line of reasoning, there is a finite probability that any statistical hypothesis of the sort that everyone simply accepts, is false. But if we accept into the rational corpus of level r, the statement (for every j) "Ticket number j will not win the lottery,' and if we allow the conjunction of any two ingredients of a rational corpus to be also an ingredient of it, then the conjunction of the whole million of these statements will be an ingredient of our rational corpus, and this millionfold conjunction, together with the statement that there are only a million tickets, logically entails the statement, "None of the tickets will win the lottery." This statement, too, will therefore appear in a rational corpus of the given level and basis. Since we have in this rational corpus the statement that there is a ticket that will win the lottery, we may conjoin these two statements and derive any statement at all in the rational corpus of level r j. (Kyburg, id.§ 197[2], emphasis is mine)

This straightforward paradox seemingly shows us that high probability alone is not sufficient for knowing a proposition and/or according to others (e.g. Nelkin 2000, Smith 2010, Silva 2023) even for being epistemically justified to believe it. The serious threat this view faces though, by denying to know a ticket to be a loser, is arguably a capitulation to skepticism.[3] Hence philosophers committed to this position, which we may call *denialists*,

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[2] Kyburg, Henry. 1961. *Probability and the Logic of Rational Belief*. Mid Wesleyan University Press. § 197
[3] For the threat of skepticism in particular see Harman (1968, 1973, 1976) and Lee (2024) which explores at length what he defines *Harman-style skepticism*.

have since attempted to develop a theory, establishing an additional necessary condition, transcending mere statistical frequency.[4]

Other scholars, such as Nagel (2018), have argued that this denial can be explained on psychological grounds and is likely generated by the way in which the paradox is expressed. Those additionally claiming an opposite view, include the same inventor Kyburg, who solves the consequential logical fallacy of holding simultaneously contradictory beliefs, by denying aggregation for empirical beliefs which are inherently uncertain[5]. And similarly Harman (1968, 1973, 1976) with his argument suggesting to give up parity, as well as walking on the same path Lee (2024), who elaborated a powerful argument, expanding on Harman's skeptical challenge, which we may call the Taiwan Argument (TA).

Hence, if you declare mere (no matter how extreme) high probability for P, to not be sufficient for a subject S to know P or being epistemically justified in believing P – you must also coherently construct a theory, effectively capable of circumventing skepticism. On the other hand, if you declare mere (no matter how extreme) high probability for P to be sufficient for a subject S to know P or be epistemically justified in believing P – you must equally construct a theory, in order to avoid holding incoherent beliefs at the same time. This follows coherently, immediately after each of the two opposite possible answers are selected – which we may denote as, respectively, *deniabilist* and *non-deniabilist* – from the way in which the paradox was linguistically expressed and thence psychologically integrated.

I have attempted to develop a line of reasoning, grounded primarily around a psychological perspective introduced by J. Nagel as a tentative solution to the Lottery Paradox. Giving credit to the sound possibility of the problem to be caused by its shrewd structure, whence our intuitive knowledge it is questioned by explicitly detailed quantitative data, leading logically to a contradictory conclusion. Thus, accordingly we may interpret the Lottery Paradox to be an instance of a *pseudoproblem* – whose attempted resolution led to the formulation of *ad hoc* theories – for in order to escape skepticism, had to deny sufficient reason, only for a (arguably arbitrary) limited class of propositions.

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[4] Smith develops an epistemic status independent of probability (ib.); Silva (ib) holds that merely statistical evidence is only sometimes insufficient for justification. (A theory exposed to adhocism, in a similar way to how Lee ib. characterized Nelkin's *root* theory)

[5] Wheeler, G. *A Review of the Lottery Paradox.* Artificial Intelligence Center - CENTRIA Department of Computer Science, Universidade Nova de. Penultimate draft. Final version to appear in Probability and Inference: Essays in honor of Henry E. Kyburg, Jr., edited by W. Harper and G. Wheeler.

2. Developing the Pope Argument (PA)

1.1 A Pope Paradox?

Nagel's main argument, coming from a psychological perspective, claims that the paradox arises from the way in which it is constructed. So that intuitive (irreflective) knowledge clashes with a reflective mode.[6] She introduces the example of asking who is the current pope. The intuitive answer would be "pope Francis". But if we were additionally prompted to honestly consider, whether he has died in the last two hours – and it was also given to us the probability, for a subject of his age and in his geographical location to die in the last two hours (based on mere statistical data) – we would suddenly *feel*, that we no longer know who the current pope is.[7]

It seems pretty sound. If we assume that the probability for the current pope Francis to be alive is 99.8%, will we assert that we know, that pope Francis is alive and that we are not living in a papal interregnum? I believe as for the Lottery Paradox, our intuitive answer will be that we don't really know it. That there is no way to assess this fact, other than i.e. checking the news. So, we could even construct the case in this way.

> **(Pope paradox)** Being aware that you didn't check the news in the last 2 hours. Can you know the current pope to be pope Francis?[8]

Built this way, we feel pressed to refuse that we genuinely know. So, it seems as if the linguistic-dialogical structure of the paradox, triggers within us a reflective state, such that we realize we actually don't know anything for certain and we are prompted to reassess our now dissonant intuition.

I think that Nagel's approach can finally help us to understand the perplexities on knowledge or epistemic justification which the paradox raised. But let's test the PA against the theories of two *denialists*, viz. Smith and Silva. Both declare that lottery propositions cannot be known or believed justifiably[9]. Smith crafts a qualitative status independent of *probability* based on the normality ranking of worlds[10]; Silva's main theory is concerned with non-randomness, elaborating a Goal-directed Dispositions Principle (GDP). Which is a requirement for epistemic justification in cases of mere statistical

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[6] Nagel, Jennifer. 2018. *The Psychological Dimension of the Lottery Paradox*. University of Toronto, Penultimate version; final version forthcoming in The Lottery Paradox, Igor Douven, ed., Cambridge University Press. § 10

[7] Nagel. id. § 11

[8] Note that we were able to build a novel paradox, without even employing quantitative probabilistic data. It was sufficient to structure the sentences such as to cast doubt on the set of propositions a subject S believes to be true, by implicitly pointing at the fallibility of a subject's set of propositions believed to be true.

[9] Except, for Silva, in some instances (non-completely-random) where a lottery has a goal-directed disposition to select a specific class of tickets, such as in his self-described "Against the odds" Silva (2023) § 5 .

[10] Smith, Martin. 2012. *What Else Justification Could Be*. University of Glasgow. § 11

evidence, dealing with selective classes of propositions such as lotteries, potentially-discriminatory and religious.

2.2 Testing Smith's metaphysical theory against PA

Will the world have to be very different from ours, for the pope to have died in the last two hours?

In the end the pope could very well die from natural causes, without this requiring extraordinary explanations. If we were to read that the pope did indeed die in the last two hours, we won't consider the event *abnormal*. Although it would definitely qualify as historic, it would still be perceived as plausible. In the Italian language we even have a saying: "morto un papa se ne fa un altro" (roughly, once a pope is dead a new one is made) or equally illuminating: "a morte di papa" (once every time a pope is dead, used to remark sarcastically rare occurrences) which although expressing the low probability for a current pope to die, nonetheless it proclaims its *normalcy* or consuetude.

Here the qualitative condition of normalcy is met, it would not be abnormal for the pope to have died in the last two hours. Therefore if we are aware of the 99.8% probability for the current pope to be pope Francis, are we justified in believing he actually is? We know that there is the 0.2% of chance that we are wrong and a world in which this event would happen won't be abnormal. The event would not require special explanations, as the pope in the end is an old man, arguably exposed to all sorts of risks and threats, much more than people of his own age and geographical location. Consequently, in accordance with Smith's theory, once a subject will start to become aware of the possibility for the current pope to not be pope Francis and because this possibility would not be metaphysically abnormal, this same subject will not be justified in believing the current pope to be pope Francis.

It would seem then, testing the PA against Smith's theory, that the only way we have to avoid skepticism[11] and a novel Pope Paradox[12], is to base our claim on mere statistical evidence.

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[11] In this case precisely withholding justification for a proposition highly probable, yet implying a negation equally *plausible*, despite its extremely low probability.

[12] And arguably so many possible others, see for instance the already quoted Harman and Nagel, and in particular the same Kyburg as quoted by Nagel (id § 3)

If it is objected that this is not reasonable, on the grounds that there is a finite probability that ticket j will, after all, win the lottery, we can answer by pointing out that according to the same line of reasoning, there is a finite probability that any statistical hypothesis of the sort that everyone simply accepts, is false

3. Testing Silva's Goal-directed Dispositions Principle (GDP)

<u>3.1 Introducing the GD theory</u>

Silva's argumentation asserts, that in some instances sheer high probability is not sufficient for epistemic justification. Silva's main line of thought revolves on the random nature of the mechanism underlying distinguishably lotteries, as a reason to override epistemic justification. And requires us to apprehend a Goal-directed Disposition (GD) into an object, in order for us to be epistemically justified in believing to be able to predict its behavior. So basically, because a fair lottery lacks a GD to select your particular ticket 1 as a loser, you cannot be epistemically justified in believing, that this particular ticket 1 is a loser, although the probabilities that it actually is are 99.9%.

He proposes several scenarios were mere statistical evidence is sufficient for justification, and others purposefully modified, in which it is required the apprehension of a GD into an object. Apart from two different lottery cases (namely *Lottery Paradox* and *Against the Odds*), he presents cases were prejudice may be present and applies his GDP also to a religio-metaphysical argument[13].

One of those involving the possibility of prejudicial discrimination is *Seminar Room*, where a phone was stolen and there are only two possible suspects, Jake and Barbara. In this situation there is a higher probability grounded on statistical data, that the phone was stolen by Jake, because he is a male and in his community males are encouraged to steal phones while women are not. Silva defends that in this case we are not epistemically justified in believing that Jake stole the phone, as we only base ourselves on statistical information; although Jake effectively was raised into a community where people are taught to steal, this does not mean necessarily that Jake will end up being a thief, this is the argumentation of Silva. He more specifically asserts, that we need something more, we need evidence of Jake having genuinely developed a disposition to steal phones (GD) – in the exact same way in which the heart's function is to pump blood – if we want to be epistemically justified, in accusing him of the theft. It is clear in this instance, that Silva is attempting to deal with such an hot and greatly debated issue as racism or discrimination in general. We may hear him pondering, if we were to equate knowledge (or epistemic justification) with high probability based on mere statistical data, wouldn't we carry the risk, to condemn innocent people, or wouldn't we literally legitimize racial prejudices?

3.2 The GDP raises probability

But does adding the GD genuinely solve the issue? If, as in the purposely modified scenario (*Serial Thief*), we know Jake to have a GD to steal phones, are we epistemically justified in believing he did steal the phone? At the end we only know Jake to have a GD to steal phones, not to steal phone P at time T in room R. Even if we concede to have the capacity to successfully identify in A, a GD to steal phones – this does not imply by necessity that S commits that specific felony in each possible instance. If it turned out

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that Jake actually didn't, wouldn't we feel we had put in jail an innocent man and that we acted just on a stereotype or prejudice?

My view is that the additional layer which Silva uses, that of the GD detection, despite its ingenuity, it serves to extend the numerical value of the probability a proposition P has, in order to be true. Not an actual additional condition distinct, from mere statistical evidence. And I understand the whole idea of being epistemically justified, that Silva and Smith tacitly imply, as based in actual fact on mere high probability. If we had the additional information, that not only Jake comes from a crime-ridden community, but that he also developed a GD to steal, that will certainly make our belief more rationally acceptable, but it still will not imply its potential falsity, let alone avoid discrimination. Arguably, the fact that Jake comes from a crime-ridden community will not give us a probability of 99.9% that he will actually steal – but adding the information that he has a GD to steal, surely will dramatically increase the probability for him to steal, although will not override the possibility he actually won't. So to recapitulate, I contend that cases of discrimination can be avoided just by choosing a very high probability threshold (ideally like in the Lottery Paradox) and that the GD tacitly works, precisely on raising the probability's numerical value, without preventing mistakes more than S believing in a lottery proposition.

What does it mean that the world would have to look different for me to be wrong? Could it be, that it simply mean that it would be an improbable scenario? If we add that a person has a GD to steal something (given that we have the competence and skill to correctly detect it), again doesn't this fact alone increase the probability, that he did indeed stole it?

3.3 Additional arguments for a statistical *primacy*

Let's imagine an alternative scenario:

> *Serial Thief - Retired.* Jake has a GD to steal phones, Jake has never in 50 years shown to have this disposition.

What would we conclude from that? That Jake actually does not have the said disposition *anymore*. Or, let's use Smith's conception of normalcy, which is quite akin to Silva's theory. If I have a car, it should normally start after turning the keys on the ignition. With Silva we could even claim, that a car has a GD to start after we turn the keys on the ignition. But, I haven't used it for the last 30 years! Am I epistemically justified in believing it will start, just on the ground of its *normal* behavior and/or designed GD?

Silva's response could be, if the GD was essentially synonymous with mere high probability, then a random process such as a lottery would have a GD to not choose your ticket.

But, I argue, that a lottery indeed *has* a GD to discard all tickets except one. And equally coming back to Smith's argumentation, it would be not normal, e.g. to win a lottery every day I suppose. I believe the whole confusion lies within the difference between, the fact of *j* being a winner and 1 being a winner. Although it is not abnormal to have a winner, it could be argued to not constitute the norm, for a particular person to win in a particular lottery.

Let's imagine this additional scenario:

> *Serial Killer*. Jake is a serial killer. Employing Silva's theory we can infer that he has a GD to kill other humans. He walks in a square with 1000 people to kill his next victim. At the end he chooses to kill Robert, which he selected randomly, as Jake did not have a GD to kill Robert, but only to kill humans.

Each person in the square had then 1% of chances to be killed, the randomness of the decision-making process of the agent, is what drives our intuition crazy and makes us dramatically self-conscious. Because, although every person had a very tiny chance to get killed, everyone could have equally been in the same place as Jake. So, it would look as if high probability, no matter how high, would not be high enough for us to accurately predict a phenomenon or to discard a potential event. Nonetheless, Silva would argue that you will not be epistemically justified in believing you will die either. If Silva is concerned of the potential side effects of mere high probability when applied to cases of potential discrimination, shouldn't he be much concerned too of *Serial Killer*, where Robert could not have been justified in believing in his own tragical and random death?

If we made the square extremely large and say there are 1 million people, who would take the risk to be there now? Or, let's say there are 1 billion people. It seems to me that we intuitively set a threshold, based both on statistical information and the relative danger or utility for us, so as Nagel argues, the paradox could be explained psychologically. If there are 10 billion people among which a serial killer can decide to kill, technically all have the same probability to be chosen, but I think we won't care anymore this time. In the end, serial killers do actually exist and the only reason preventing them to kill us today is, I contend, sheer probability – as most apparently select victims in a random or unpredictable fashion.

3.4 Does GDP make paranoid propositions reasonable?

I believe, I have sufficient reasons to claim that a serial killer won't enter my house tonight. Although the event is theoretically possible, and it happens – being the result of a random process, the only thing making it implausible is sheer statistical data. If I had a mere 99.9% of chances to be randomly selected by a serial killer, I will better run – discarding this possibility just because of the 0.1% of chances, would be judged as pure insanity. I argue that if I wasn't justified in believing so, I will be justified in being paranoid, or at least paranoia would not be unreasonable. This is clearly an instance of skepticism, suspending judgement in some cases can be unreasonable and dangerous. Silva is not concerned with a threshold for example, while I believe it to be crucial and should be contextually-based[14].

I can also argue that Silva's analogy is not fully accurate. As again, the serial thief does not have a GD to steal phone P at time T in room R, but phones in general generally. In the same way in which – or in arguably a more precise way – the lottery has a GD to

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[14] For a similar view see Wenmackers, S. (2013). Ultralarge lotteries: Analyzing the Lottery Paradox using non-standard analysis. Journal of Applied Logic, 11(4), 452-467. https://doi.org/10.1016/j.jal.2013.03.005

discard tickets (but not ticket number 1). Silva could object, that if your ticket 1 was not discarded, it was because of sheer luck. But can we actually remove the element of "sheer luck" in the case of a theft of a phone? Let's imagine that the serial thief did not steal your phone, one possible reason for that is sheer luck. In order for the analogy to be right – for the issue here is the exact ticket 1 that you hold – you must know or at least be epistemically justified, that the thief exactly because of his GD, is going to steal phone P at time T in room R. The fact that the thief decided to choose phone P at time T in room R is arguably due to luck and we cannot remove luck from any real situation. What I believe makes the lottery picture different, is that in this case, we are in advance made aware and informed precisely of the element (in a quantitative fashion, what could we ask more?) of the intrinsic element of luck[15], which always is out there in the empirical realm.

Let's compare again the two cases, trying to elucidate them with the utmost clear analysis. The fact that a serial thief has a GD to steal phones, it does not alone necessarily imply that my phone was stolen by the serial thief – just that it is very probable he did, considering mere statistical data. But let's now attempt to compare the chances of his disposition to be actualized, to the chances of your ticket to win – and the picture we will uncover would be one of a disposition to select tickets as losers, to be more reliable than a disposition to steal your phone P. Conceivably, the thief is more fallible than a machine which was indeed designed to regularly and efficiently produce profits for a company – out of people's propensity to hope of getting lucky rather than unlucky. Let's say it thusly, the lottery has a GD to discard 99% of tickets, while Jake has a GD to steal phones, which if we had to quantify probabilistically it would be far lower than the lottery's. The only argument Smith and Silva actually preserve, is to advocate that after we are presented the data then we are no more epistemically justified. But this option not only capitulates to skepticism, it is also dangerous and allows for paranoia to be judged reasonable as previously showed. Moreover, I believe the PA of Nagel to be decisively resolutive; the paradox arises because we are made aware of the fact, that we are not absolutely certain after our psychologically intuitive certainty (our mental stat of believing in the dichotomic form of yes-no) was challenged by new information. Hence, Smith and Silva conclude that we actually are not epistemically justified. But this is, I maintain a psychological issue. If we see it objectively and stick only to data, we realize that it is far more safe to trust a random process like a lottery, than a purportedly non-random process, i.e. the decision making of a thief, which contrarily to the lottery is a human being, plausibly not a very reasonable one.

3.5 Reductio ad extremum

Let's reframe the problem with an extreme scenario:

> *Death Roulette.* We have a death roulette. 8.000.000.00 participants of which 7.999.999.999 will be chosen to be killed and only 1 person will be spared. Each has an equal probability to be spared amounting to 0.00000001251% and an equal

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[15] And it is this same element of luck which is employed and exploited in all lottery-like situations and bets of all sorts and type. But this element of luck is not unique to those situations but it is intrinsic in all contingent worlds.

probability to die of 99.9999999875%. If I am to take part to this death roulette, am I epistemically justified in believing that I will die?

We have a death roulette, where there is for each participant (all humankind) an almost certain probability to be chosen to be killed, while just a single person will avoid this fate. If we employ Silva's model, because the death roulette lacks a GD to select me to be killed (being the selection process random) I will not be epistemically justified in believing, that I will have the same fate of all humanity. Doesn't this sounds as a form of radical optimism on the border with wishful thinking? But what about Smith's? A world in which I will not die, would still be no much different from the current one, hence I will lack the appropriate epistemic justification to believe that I will indeed die. Wouldn't be considered irrational or even arrogant to believe that I will not die in such a case? At least I feel we would perceive such an attitude from a subject accordingly. But, I argue that this form of skepticism is definitely dangerous to be advocated for.

But let's introduce an additional scenario, so that by virtue of comparing we may highlight more clearly the issue.

> *Serial Killer – GD*. We have a notorious serial killer which clearly has shown to have a GD to kill blonde women. So we clearly satisfy one necessary condition and because Silva did not enter a specific statistical threshold, we would say that, just based on his previous killing modus operandi and data on this precise day, at this location a blonde woman has 60% of chances to be killed.

According to both Smith and Silva I will not be epistemically justified in believing that, if I were take part in the death roulette I will be dead. I believe that the fact of the first to be a random process and the second to apparently not respond to random features, gives us the impression somehow to be less predictable. Yet, I argue that this situation clearly testifies the dangers in believing that we need something more, apart from high probability, while also of not indicating a particular threshold for rational belief. We are almost certain, that if we were to take part in the death roulette we would be dead. While at least in the case of *Serial Killer – GD* – although he surely has a certain goal-directed disposition to target blonde women – just because you are one in place P at time T in the presence of him, it not only doesn't assure you to be killed, but it does live much room to the opposite.

In the Death Roulette, unless you are the only lucky human to be spared, there is definitely no other way for you to preserve your life. Despite the process being random, it has the inexorable consequentiality of a machine and doesn't leave room for error in the same way as in a more contingent and human situation. In *Serial Killer – GD* not only the lower probability alone lives ampler space for being spared, but just imagine that you are a blonde woman and you are made aware of the 60% probability – you will now have all the room to try to avoid the serial killer. While this awareness in Death Roulette does not change the outcome, although the process is random. And yet, the blonde women are purposely targeted and still they can find an ample way to rescue themselves – while I won't be purposely targeted and yet I will almost certainly die, without no real chance to influence the outcome.

3.6 Probabilism as parsimonious

I will explore additional scenarios proposed by Silva to discern when mere statistical evidence epistemically justifies belief and when it does not. Concerned in particular with racial discrimination and the discussion over moral encroachment, Silva discusses Cosmos Club, a case he describe thusly:

> *Cosmos Club.* The night before he is to be presented with the Presidential Medal of Freedom, John Hope Franklin hosts a celebratory dinner party at the Cosmos Club, at which he is a member. All the other black men in the club are uniformed attendants. While walking through the club, a woman sees him, calls him over, presents her coat check ticket and orders him to bring her coat.

> (Silva, 2023 § 21)

This evident case of discrimination naturally constitutes a problem for us as philosophers, we all know how serious and extensive the issue is and what we intuitively feel is that an epistemology, based on mere probability could lead us into racism and justify beliefs in stereotypes. But let's analyze in depth the case. If the evidence a subject S has it's that in room R all uniformed attendants are black people and that all black people in room R are uniformed attendants and the subject S doesn't know about Franklin coming; then I believe just based on the evidence available to S, S is epistemically justified in believing that Franklin was a uniformed attendant, no matter how unjust and unpleasant this event may be judged. In fact, I hold this scenario to seem to constitute a significant issue only because of the delicate element of race. If we were to modify some parameters the matter will change accordingly.

Let's imagine this alternative scenario:

> *Cosmos Club - Redheads.* In this club all attendants are red-haired people, a famous red-head popstar will play there as an homage to the club. A woman enters the club and gives her coat to the pop singer.

In this case I contend no one would get offended and we would even find the occurrence as a quite funny anecdote to tell, almost a joke. Clearly if the woman failed to recognize the singer and thought she was an attended is because of her ignorance of the singer; now we can even imagine the singer feeling bad about the fact of not being recognized; but hardly anyone would cry for an act of discrimination against redheads being enacted.

But let's come back to how Silva solves Cosmos Club. He argues that the woman wasn't epistemically justified in believing that Franklin only because was a black man necessarily had to be an uniformed attendant. And that is because Franklin lacked a GD to become an uniformed servant – which black people don't inherently possess. But what if Franklin had a GD to become an uniformed attendant at birth and simply decided to mask it? To be fair, if the woman did actually know of the potentiality of other black people to come to Cosmos Club, then I too agree she would not be justified anymore. But simply based on mere statistical evidence, if the woman had to analyze statistical data about black people's common occupations; I am sure that no matter how high the probability for a

black man to be an uniformed attendant, that would not be nearly as high as random processes like a lottery. I think the fact that Franklin did not have a GD to become a uniformed attendant (given that it can be demonstrated and somehow detected), seems as an ex post explanation of the underlying causes behind mere statistical data.

This GD appears as an unnecessary addition to explain this situation. We can by simply appealing to merely statistical evidence, deny the proper epistemic justification to the woman involved. Indeed, it seems to constitute mere common sense, an awareness that despite the high amount of black people being employed as uniformed attendant – the probability that all black people are employed as uniformed attendants it is nowhere near an extremely high threshold. The introduction of the concept of a specific GD does not help us navigate these issues. Firstly, this GD needs to be detected and needs also to be quite frequently actualized in order to hold some meaning; but itself the manner and accuracy of its detection in objects can be questioned. Secondly, the theory does not set a specific threshold and I believe it to be crucial for a subject, in order that he correctly discern and determine knowledge and epistemic justification. Thirdly, and most importantly, as I have introduced in this paragraph, the concept of GD is an unnecessary *multiplicandum* to explain a situation; employing Ockham's razor or *Lex Parsimoniae*[16] it should be preferred the theory which explains a phenomenon in the simplest possible way, adding the GD is unnecessary when we can explain the phenomenon by simply appealing to high probability. But Silva refuses high probability to be sufficient for knowledge *in se* and thence he is obliged to develop a very crafty and ingenious theory, but which seems unnecessary when compared with a simpler explanation.

Now I will analyze an additional scenario which Silva has attempted to explain with his GDP, it pertains another "hot" topic and is a fine-tuning argument in favor of theism. In this argumentation apparently, we would be epistemically justified in believing in God, simply because of an high probability for the universe to have been created by some entity. The argument is transcribed as follows:

> The laws of physics are unexpectedly inhospitable to life. Scientists did not expect to discover that life depends on seemingly improbable values in the fundamental constants of physics. Scientists expected to discover that life would be possible given a wide variety of values in the fundamental constants. … If this unexpected inhospitability were equally unexpected with or without the existence of God, then the fine-tuning of the fundamental constants would be irrelevant to the philosophy of religion. But the fine-tuning of the fundamental constants is substantially more likely given the existence of God than it is given the non-existence of God. Thus the fine-tuning of the fundamental constants is strong evidence that there is a God. There are some real complexities to the fine-tuning argument, complexities regarding which controversy is appropriate. But the fine-tuning argument is more

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[16] https://plato.stanford.edu/entries/ockham/ (consulted on 11/03/2025)
Ockham's razor famously states: "Entia non sunt multiplicanda praeter necessitatem." (Entities must not be multiplied beyond necessity.)

controversial than it ought to be. The basic idea of the fine-tuning argument is simple. It's as legitimate an argument as one comes across in philosophy.

(Hawthorne & Isaacs, 2018: 136ff)

Once more, I am confident that we do not need the GDP in order to refuse Hawthorne and Isaacs fine-tuning argument for theism. Let's dissect and clarify the argument:

P1. Scientists agree that life depends on improbable values on the variables in the fundamental constants of physics.

P2. This improbability of the emergence of life would be more likely if we posited the existence of an agent who caused it.

C. This agent (God) exists.

This argument has various flaws and it definitely doesn't threaten high probability. The main issue with it is the not only unnecessary, but arbitrary addition of an agent such as God; we can really dismiss the whole argument just by, as previously, appealing to Ockham's razor, without the need to employ the GDP. One additional objection is about the impartiality of the argument in itself, philosophical arguments should be elaborated objectively with no inherent personal goal; a philosopher should arrive at a conclusion independently without letting himself being guided by previous assumptions, but the argument assumes an entity and then it tries to demonstrate that it can be probable that it exists. But calculating the probability for an entity, whose existence need first to be demonstrated, of performing an action, I believe to be nothing more than sophistry. How can we calculate the probability of an object O which is only speculated, to perform an action? It doesn't work. It is as if I posited the existence of an alien who feeds on the sadness of people, and through it explain why so many humans are sad or feel unwell; and I argued that it would be more probable for the alien to exist rather than sadness be just the result of mere chance or other non-intentional explanations. Silva too argues similarly and it agrees that the theological one, as he would agree on the alien, it is not the best explanation. It is not the simplest, it is unnecessary. But, doesn't this undermine probability as a sufficient condition for knowledge, in favor of another condition such as Ockham's parsimony? Couldn't I simply claim high probability for non-existent (or merely speculated) objects and in this way undermine high probability as a sufficient condition? This surely appears as challenge to my stance.

But is there a real, accurate way to calculate the probability for a proposition describing a situation where a speculated object is present? That looks like a good challenge. Sure we could dismiss the theistic argument as being too arbitrary, but what about speculated existing objects? I think that the solution is simple. When trying to understand a phenomenon we decide to assume the existence of a speculative object, we will first have to calculate the probability for this object to exist and then iff the probability is high enough, we can employ it to support the additional probability for P to be true. So we first need to assess God's probability to exist and then once we have an accurate quantification of G instead of non G, we can apply G as the best explanation for a phenomenon. So let's do it. How probable it is for God to exist? Now what we see is how difficult it really is to

correctly calculate probabilities and even more for such a speculated object as God. Clearly Silva leverages the worst and most arbitrary calculations of probability to defend his view, but the Lottery Paradox is one example of a fair and objective calculation which cannot be paragoned to God, still let's try it nonetheless.

I will understand theism as a theory which explains the origins of life as the design of a supernatural agent. This theory has different versions in different cultures among the Earth, it is in fact a metaphysical theory passed on like Dawkins argued almost like a gene in a memetic fashion[17] . We have the three great Abrahamic theories (God, Allah, YHWH) each using a different denotatum, then we have Hinduism, which advocates for multiple agents and has many variations, while the rest of the world does not advocate for theism. We could argue that it is only by chance that we are born within a culture advocating for one specific version of this metaphysical theory and that if we were born into a different culture much probably, we won't bother ourselves with the question of God. It seems as if the concept of god it is not something which emerges independently out of an observation of the world – and hence can constitute either knowledge or epistemic justification. But rather it very much seems like a cultural concept which must be presupposed in order for us to raise questions and arguments about it and hence it is simply transmitted culturally. Indeed all the Abrahamic religions stems from a common source and the only other major theistic religion is Hinduism, a peculiar and extremely varied metaphysics intrinsically linked with the cultures of the Indian subcontinent. So let's keep reasoning, a significant part of the world does not share this theory, the only two other civilizations who support it hold two very different and together inconsistent theories, namely monotheism and polytheism. So again, if God was a real object, humans would have arrived at it independently and had constructed without a direct contact, a very similar picture of it. But instead we know that a significant part of the world is non-theistic[18] and that the other side which is not, holds two together inconsistent views about god, viz. monotheism and polytheism.

So logically either one or the other must be true. Therefore, I think that by choosing one alternative the probability for the object or objects God to exist reduces drastically. If we then add that in each of the two worlds the belief in this theory is steadily diminishing, I think that theism becomes a very improbable theory. So I contend the real issue which the fine-tuning argument made us aware of, is that the calculation of probability can be tricky and must be faced scrupulously as it can be easily manipulated for one's own ends or own's wishful thinking. When calculating the chances of P we should try to be as objective as possible and think of all elements of an argument; while it is easy for S to fall within an arbitrary construct, it is quite different for a process such as a lottery, which guarantees us an objective and reliable numerical assessment of the chances involved.

So in cases where we have a probability assessment for P to be true, we should be careful and verify as much as possible if the assessment was the most precise and complete as

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[17] Dawkins, R. (1976). *The selfish gene*. Oxford University Press.

[18] I do not have precise data but is an understandably big part of humanity, if we consider alone Buddhism, a major non-theistic religion and the significant presence of secular countries.

possible. In the case of the Lottery we know all the mechanism of the situation, because is one which was purposefully designed. But in others I totally understand how tricky such evaluations can be and how unjustly they can be employed to justifiy false statements. But that should not be a reason to refuse mere high probability as a sufficient condition and try to search for alternatives, just because something is fallible it doesn't mean it is no good or that it is not perfectible – also it doesn't mean that there is a better alternative. I argue that all the proposed alternatives have failed to hold. Smith in particular did not resist the Pope Argument generating the Pope Paradox and thence capitulating to skepticism. Silva's theory despite the shrewdness and partial acceptance of both mere statistical data and simpler explanations, stumbled upon unnecessary explanations which although developed to somehow prevent phenomena such as discriminations, provoked arguably worse unintended consequences such as the case of Death Roulette or a form of skepticism which made paranoia reasonable.

4. Appendix. Additional arguments.

<u>4.1 Additional issues surrounding the GD</u>

Let us test the GDP anew. In order to do it we will paint a further purposefully modified scenario.

> *Serial Killer - GD – Innocent.* A professor has apparently been killed in a seminar room, Jake and Barbara were the only students attending it. Jake is a serial killer with a GD to kill professors in seminar rooms when alone with exclusively another female student. The professor in fact, died after falling on the ground as a consequence of a sudden heart attack, caused by a very rare condition unbeknownst to the professor himself and extremely difficult to clinically detect.

The question then is naturally the following. Are we epistemically justified to believe that Jake killed the professor? If we are appropriately made aware that Jake is a serial killer, with a GD as the most incriminating and connected to the situation as possible and we have no clue about the professor's hideous health condition – can a subject S at least be excused for unjustly condemn Jake? I maintain that the answer to this question depends considerably from the perspective, through which we decide to examine the possible event. I will presume that we are viewing the problem exclusively from an epistemological lens. I subsequently contend that a decisive element, is whether we are made aware of Jake having a GD or not and more generally I suspect the GDs detection to be an issue.

Silva clarifies his position as regards to the detection of a GD, in this case identified with a person's character trait (e.g., being a thief is considered one) as follows:

> It's worth noting that Serial Thief exemplifies a very common pattern of reasoning. For observing people's past behavior in various settings (like Jake's history of theft) and inferring from it that they have certain character traits (like being a thief) is how we gain first-hand knowledge of people's character traits. And we regularly use information about peoples' character traits to form beliefs about what they've done in cases structurally similar to Serial Thief.

> (Silva, 2023; § 6)

He elucidates furthermore his stance in the connected references:

> The mode of inference here is often abductive since having a character trait is often the best explanation of a person's actions. But it could also be deductive since we sometimes know that: one wouldn't have so often performed actions of type T unless they had character trait C. If we further knew that the one often did perform such actions, we could deduce that they have trait C. In contrast to abductive and deductive arguments, a mere probabilistic inference to a person's

character traits involving non-extreme probabilities will have to conform to the Goal-directed Dispositions Principle on the account to be explored below

(id.; § ibid, ref. 8)

Therefore in accordance with Silva's line of reasoning, the detection of a GD into an object O is achieved by analyzing the behavioral history (BH) of O in context C. Thus it is presupposed that we are in similar scenarios, somehow made aware or at least epistemically mandated to be aware, of the BH of O in C. In addition, Silva describes in particular two logical ways by virtue of which we can apprehend a GD into an O, given that we know the BH of O in C; namely the abductive and the deductive methods. Finally Silva states that in alternative to the aforementioned ones, a mere probabilistic inference involving *non-extreme probability* must meet the GDP standards. So here we have a mention of a probability characterized as extreme, though we lack a clear view about a threshold defining exactly what *extreme* means and when.

I consequently assert, that in such cases the capacity to correctly detect a GD plays a substantial role in determining whether S is epistemically justified in believing that P (i.e. Jake did X). Returning to *Serial Killer – GD – Innocent*, here we are undoubtedly made aware of Jake's peculiar GD. We do not need S to abductively or deductively infer Jake's unique character trait, out of statistical information within a relevant context. So it would seem plausible for S to be epistemically justified to believe that P. But what if we slightly change the scenario by utilizing the PA, will we generate a paradox parallel to the Pope Paradox?

> *Serial Killer – GD – Innocent - Reflexive.* A professor has apparently been killed in a seminar room, Jake and Barbara were the only students attending it. Jake is a serial killer with a GD to kill professors in seminar rooms when alone with exclusively another female student. After a careful reflection you conclude that it is still possible that Jake did not actualize his GD being a fallible human being. The professor in fact just died after falling on the ground as a consequence of a sudden heart attack, caused by a very rare condition unbeknownst to the professor himself and extremely difficult to clinically detect.

Do you know that Jake killed Barbara? How can we know if we did not personally witness the fact, I suspect our intuition cries! But can we at least be justified in believing Jake in fact did it? We know it is possible that he didn't, as in fact it turns out – yet it will be *extremely* probable that he did it. Smith would require in this case in example, an extraordinary reason to explain why Jake didn't kill the professor. And because this instance would require such an extraordinary reason, he would likely contend[19] that S is justified in supposing that Jake killed the professor. So S would be epistemically justified in holding contradictory beliefs simultaneously, besides believing something untrue. Let us clarify attentively the logical structure of *Serial Killer – GD – Innocent - Reflexive*.

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[19] Smith M. id. § 21; 25

P1. A professor has died and only two other persons were present, Jake and Barbara.

P2. Jake is a serial killer with a GD to kill professors in seminar rooms, exclusively in the company of one other female individual.

P3. We also know that being Jake a human being he is fallible and it is possible he did not actualize his GD.

P4. Jake did not indeed killed the professor.

Consequently:

C1. S does not know that P. (Skepticism is implied arguably)

C2. S is aware that both P and non P are possible, although P is more probable.

C3. S is epistemically justified in believing that P because of O having a peculiar GD.

C4. S is epistemically justified in believing a false proposition notwithstanding his awareness of non p (namely the true proposition).

4.2 Random extremely probable world

Let us paint a novel thought experiment.

> *Random extremely probable world.* There is a world which was designed by an evil demon, to perfectly mimic our current world. It is identical to our current one in all its properties, except for one single thing. Gravitation does not depend on an universally valid physical law, but it is the result of a random mechanism, which 99.99999% of the time works identically as the gravitational law of our world would, while the remnant 0.00001% of times it does not work.

Hence, in *Random extremely probable world*, the mechanism behind gravitation only mimics the behavior of our current world, in actuality it is the result of a random mechanism in a parallel fashion to lotteries. Thus exclusively in 99.99999% of instances the law will concretize, whence only in a single possible occasion it will fail to hold true. In this hypothetical world, no subject would be capable to justifiably demonstrate, that in instance P the law of gravitation failed. For there would be no way to epistemically prove it, because science requires objective repeatable phenomena, in order for a test to be legitimate. Subjects living in the aforementioned world, would arguably discover the same law of gravitation as ours and no one could possibly accuse them of not knowing P, or not being epistemically justified in believing P. This random falsely mimicking gravitational law, will constitute the norm in that world, as there would be no rational manner to discover the real mechanism behind it. Following Smith's theory of epistemic justification, built as a continuation of Nelkin's influential argumentation[20], we could proclaim that a

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[20] Nelkin D. K., The Lottery Paradox, Knowledge, and Rationality. The Philosophical Review , Jul., 2000, Vol. 109, No. 3 (Jul., 2000), pp. 373-40; Duke University Press on behalf of Philosophical Review; Stable URL https://www.jstor.org/stable/2693695; 17

S inhabiting *Random extremely probable world*, would be justified in believing in a false gravitational law, which is the result of a random process, in a parallel way in which Bruce is epistemically justified in Smith's own example. Equally a S inhabiting *Random extremely probable world* would not be justified in believing that the gravitational law is indeed the result of a random mechanism nor could suspend its belief on the issue.

People's wisdom would function in a parallel manner as in our world, there could be no way to discover the actual random mechanism determining this aspect of their world. In a world thusly posited, no rational road – either through observation or through aprioristic meditation – could lead one of its Ss to uncover this truth. Perhaps the only feasible path would be if the evil demon revealed directly to you and hence confessed the hidden architecture behind the phenomenon of gravitation. In appearance then you will not anymore be epistemically justified in believing, what all other Ss in *Random extremely probable* world believe. Bypassing a newly generated problem, that of believing a subjective non-replicable event such as a vision and in addition the sincerity of an agent such an evil demon.

It would seem naïve were we to deny knowledge. The only reasonable thing seems then to suspend an absolute certainty on a single instance. But that is precisely the case for every non-random event, as randomness is always constitutively present, because of the inherent fallibility of all human. I have the feeling that here epistemic justification is carried toward absurdity.

Both Smith and Silva as well as Nelkins feel the necessity to build an additional condition, as a consequence of the urge they felt to reject the proposition that ticket 1 is going to lose as qualifying as knowledge. I believe this was an intuitive reaction, (indeed the Lottery Paradox receives intuitive reactions clashing with quantification) which may well be explained psychologically, where we if the odds are unlikely but potentially rewarding, tend to prioritize them while avoid the opposite and also it depends on a misleading conception of knowledge as absolute certainty (which is rooted in at least as back as cartesian epistemology)[21].

4.3 An attempt at reframing probability.

Let's once more entertain Smith's argument, high probability by itself is not enough, we need an additional condition, conceptually independent from it, what he defines as *normalcy*. Propositions akin to the lottery propositions are singularly motivated by high probability, while a proposition in order to be epistemically justifiably believed it also necessitates of an *authority*. But for which reason do we trust an authority? I will ask this question, it is more probable for an authoritative source to produce epistemically justified true beliefs or to produce unjustified false beliefs? Couldn't it be, that every other ground for which we strongly believe something justifiably, is ultimately still rooted on high probability alone?

Silva accepts that high probability in some instances *can* justify belief. But he also offers counterexamples where this should not be the case. Both cases concern hot topics such as

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[21] https://iep.utm.edu/rene-descartes/ (consulted the 12/03/2024)

discrimination and religious belief. Perhaps it is because of this, of the high stake involved, that we are psychologically coerced to be more epistemologically careful. My tentative response is not surprisingly, that the vague threshold it's pragmatically adjusted by us based on a risk minimization framework, concerning specifically high stake cases.

Let us, a further time engage more deeply with Silva's main argument – The GDP. Which is an additional required condition for us to know. Let us quote it directly from the author's own expression, so as to confront it more lucidly:

> Inspired by the observations above, here are conditions for when it is rational to believe that x is F when x has a high probability of being F on your evidence.
>
> **Goal-directed Dispositions Principle (GDP).** For any agent S, object x, property F, stimulus condition c, and total body of evidence e: [Preamble] when S's total evidence e supports the claim that x is F only by supporting the claim that the probability that x is F is high (but less than 1):
>
> **(GDP-Suf)** it is rational for S to believe that x is F **if** it is rational for S to believe that x has a goal-directed disposition to be F when c and this together with e justifies a sufficiently high credence that x has (will have) manifested its disposition to be F when c, **and**.
>
> **(GDP-Nec)** it is rational for S to believe that x is F **only if** it is rational for S to believe that x has a goal-directed disposition to be F when c and this together with e justifies a sufficiently high credence that x has (will have) manifested its disposition to be F when c.
>
> The GDP has been separated into necessary and sufficient conditions to help us identify the work that each direction of the biconditional does.
>
> (Silva, id.§ 16)

As a consequence, because in the Lottery there is no GD to be detected. then we are not epistemically justified in believing its related propositions. Yet I wonder what is the exact reason, when developing a prediction about the future, which should lead us to trust more a complex, speculative GD, which we first must know and then spot and which is potentially nebulous, instead of just plainly consider the numbers? I hold that Silva elaborated this GDP essentially with the function to discern precisely the right epistemic justification in high stakes situations. Yet he conceivably through it reached an even higher probability for the case at matter.

How negligible a potential fact is, I contend to be a matter of human values – hence inherently a case for psychology and cultural discussions. In all potential cases we can think of there will be an element which is unpredictable. I don't agree with the essential difference of a GD behavior from one defined as random, as both do not escape fallibility, both remain in the same line, in the resulting numbers. The high probability itself shows us that we can trust the process, otherwise why should lottery companies even exist, if the mechanism was unreliable? Whether we find a reason or not to account for the rarity of an occurrence, this does not change the fact.

4.4 Probabilism or skepticism

Indeed as we had previously showed by virtue of the PA, we could even substitute the proposition that my ticket will lose, with any proposition part of the class of true scientific propositions and structured accordingly we would obtain the same effect. No epistemic theory in principle can reach the desired threshold one of absolute certainty, for everything human is constitutively fallible. So, if we follow logically the premise that a highly enough probability, is not the same as knowledge and conjoin it with the apprehension that no proposition is absolutely certain, we reach the radical skeptical conclusion, that we do not know anything at all.

> P1. The theory of evolution (T) is not absolutely certain.

> P2. Both T and ¬T are possibly true.

> D. I don't know whether that T or ¬T. (Suspension of judgement or epochē, i.e. skepticism)

This is the first outcome of the paradox. For if we deny to know that ticket 1 will lose we will have to negotiate all knowledge. But, if we declare to know that ticket 1 will lose, we will have to support a contradiction when declaring it for each ticket at the same time.

I suspect that the whole paradox emerges from an old fashioned conception of knowledge as certain or ultimate[22]. The paradox tacitly presupposes knowledge to be certain and then, following logical rules, such as that from true premises cannot follow a false conclusion or closure principle[23][24], declares the impossibility of allowing propositions of high probability to be knowledge (the alternative to certainty), but in so doing it reaches skepticism as no proposition can arguably be said to be certain.

If we sincerely ask to ourselves, of everything we know, whether we are 100% certain that we know it, we will soon start to doubt many things and we will realize that no proposition that we currently hold as true, is more certain than the proposition that ticket 1 will lose. It is not my job here to conduct a sort of cartesian-like metaphysical meditation inquiring what can I actually know for certain. For the present purposes my only objective was to state that what we deem as true with all sorts of authority, safety, sensibility, reliability, logical coherence, evidence (in all its possible interpretations), normalcy and all the theories that have been proposed to offer an alternative to high probability, still can

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[22] Apart from the aforesaid Descartes (1596-1650), we could also consider influential epistemologists such as Wittgenstein (1889-1951) and Popper (1902-1994) whose, respective, verificationism and fallibilism imply an *ultimate* test for a theory. As regards W. I am referring to the theory underlying the Tractatus where a substantially positivistic attitude to knowledge is at place.

[23] [As related to the Lottery Paradox] Kiesewetter B. *Can the lottery paradox be solved by identifying epistemic justification with epistemic permissibility?*

[24] [A more general overview] https://iep.utm.edu/epis-clo/#:~:text=A%20simple%20closure%20principle%20is,second%20thing%20to%20be%20true. (Consulted the 13/03/2024)

be doubted and are no more probable than ticket 1 will lose. The only alternative to skepticism is an high degree of probability alone.

So my conjectural answer to the paradox is: Yes, I know that ticket 1 is going to lose. But then how to respond to the objection, that I would hold simultaneously inconsistent beliefs, as I know that at least 1 ticket is going to lose and I am saying implicitly for each ticket that is going to lose. My answer is the following. At the moment in which I am evaluating whether ticket 1 will win or lose, the lottery has not yet been drawn, the lottery has not yet happened. I don't know whether the lottery will ever happen, it is curious that no one (to my knowledge) has even thought about this possibility. Despite being a philosophical problem, it is about a very practical situation, no matter how unlikely it is that the lottery will not happen, it is still certainly in our contingent world possible (and maybe even more probable, on statistical grounds, than the proposition that your ticket is going to win). So in actuality, not only I don't know for sure that one ticket is going to win, I don't even know for sure if the lottery is going to happen at all (all sorts of innumerable circumstances can prevent it from happening, i.e. the lottery's company goes bankrupt, there is a power shortage, the lottery was a scam, the date of the draw is postponed or you misinterpreted it, and so on and so forth). Thus at the time in which I am evaluating, whether I know or not with high confidence, if ticket 1 is going to lose, there are all sorts of probabilities which I have to calculate and there is no independent criterion within my theory, besides a high dose of probability, to conclude whether I know the proposition or not.

What happens when the lottery is drawn and I apprehend that I was wrong and that ticket 1 was a winner, does this mean I never knew it in the first place? No. I just knew *almost* certainly that ticket 1 was a loser, it simply happened an extremely rare event which still was preconceived by my conception of knowledge, which include also the possibility, in rare cases to be wrong. But still, this occurrence will not change my knowledge and attitudes toward those lotteries, I contend it would be irrational to believe that ticket 1 will win the next lottery just because it won in this extremely rare instance. We see actually how helpful it is to know the probability alone of a ticket winning, as it can save a person's money, indeed many casinos use as a strategy a little initial win, to encourage a person to play more and inciting irrational behavior. Denying the status of knowledge for the lottery paradox is far too dangerous and I feel I have already showed where does the source for this intuitive opposition come from.

But still the ticket won, therefore you failed at producing a correct prediction, you failed at knowing the proposition. But there is no possible way to predict anything for certain, so it would be total luck if your bet succeeded, as is entirely unreasonable. Denying high probability to suffice for knowledge entails skepticism, not too dissimilar from Descartes' doubt and related inquiries or even Nietzsche's nihilism[25]. Risking and betting makes sense when considering the stake involved, but sure it is not knowledge but a sort of playing on the fallibility of knowledge itself. When evaluating the proposition that ticket

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[25] His view implied an equal value for all propositions which claim truth, as there is no objective way to assess facts "There are no facts only interpretations".

1 did win, once it actually won, it is highly probable to be true, but before the drawn was made it was actually not probable at all, so the incoherence does not exist, probability is relative to the evaluation of S and the specific situation and is always negotiable.

Conclusion

In the course of our analysis conducted in the space of this paper, we are been able to give a deeper look and visualize the issue surrounding the Lottery Paradox more clearly. Starting from the thesis, primarily derived from the novel psycho-linguistic perspective introduced by Nagel and the most general non-denialist position of the same Kyburg, Harman and in particular Lee – all of whom made us very aware of the skeptical danger – we developed a critique of the theories of two main exponents of the denialists camp, namely Smith and Silva.

Firstly by virtue of the Pope Argument and the parallel Pope Paradox we tried to undermine Smith's metaphysical argument, who claimed a potential additional condition independent of probability. Then, in the third part of the essay we embarked onto a detailed critique of the ingenious, yet judged by me adhocist, goal-directed disposition principle (GDP; GD), by furnishing alternative scenarios and comparisons.

I believe to have showed, if not the whole Lottery Paradox to be a pseudoproblem, at least that the theories of those whom I address as denialists, do not hold so strongly and my counterexamples undermine them. That this problem is has a psychological explanation founded on the inherent fallibility of our knowledge and that the theories of the denialists can be explained out of this misunderstanding and additionally, as seen in Silva, out of ethical concerns and radical optimism. But not only the GDP does not prevent undesirable outcomes of the kind but it creates new ethical dangers.

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6. Declaration of academic integrity

I hereby confirm that the present paper / thesis

The Lottery Paradox as a pseudoproblem potentially ex-plained on psycho-linguistic grounds

is the result of my own independent scholarly work, and that in all cases material from the work of others (in books, articles, essays, dissertations, and on the internet) is acknowledged, and quotations and paraphrases are clearly indicated. No material other than that listed has been used. I have read and understood the Institute's regulations and procedures concerning plagiarism.

Ivan Catanzaro, 14/03/2025

Name, Date

Signature